Module Specification

Module Title	Structure and Reactivity in Organic Chemistry	Module Code	CHE202A

Credit Value	15	Level	5	Mode of Delivery	On Campus	Semester A

Pre-requisite modules	Co-requisite modules	Overlapping modules
		CHE202

1) Content Description

Provide a description of the module, as it will appear in the Module Directory and on the Student Information System (approx. 70-80 words).

This module aims to provide a wide understanding of the occurrence, synthesis and behaviour of organic compounds. Topics to be covered include: enolate chemistry, introduction to radical chemistry, oxidation and reduction reactions. The use of spectroscopic techniques as a tool for structure determination in organic chemistry will also be considered.

2) Module Aims

Specify the aims of the module, i.e. the broad educational purposes for offering this module.

This module aims to provide students with an understanding of two important classes of organic reactions: carbonyl and reduction chemistry. Emphasis is placed on developing a sound knowledge of structure/reactivity relationship in organic molecules. The module further aims to provide students with an understanding the use of spectroscopic techniques as a tool for structure determination in organic chemistry.

3) Learning Outcomes

Identify the learning outcomes for this module, i.e. knowledge, skills and attributes to be developed through completion of this module. Outcomes should be referenced to the relevant QAA benchmark statements and the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008). The SEEC Credit Level Descriptors for Further and Higher Education 2003 and Queen Mary Statement of Graduate Attributes should also be used as a guiding framework for curriculum design.

Academic Content:	
A1	Carbonyl Chemistry: • formation and reactions of enols and enolates • alkylation of enolates • reactions of enolates with carbonyl compounds: Aldol and Claisen Reactions
A2	Reduction Reactions: • Reduction processes and appropriate reagents
A3	Hetrocyclic Chemistry: • introduction to heterocyclic chemistry • Structure and reactivity of pyridine and pyrrole; comparison to benzene.

Disciplinary skills - able to:	
B1	Describe and explain the structure and reactivity of enols and enolates
B2	Discuss the concepts of chemo- and regioselectivity
B3	Use curved arrows notation to write reasonable mechanisms for all the reactions discussed in this module
B4	Discuss the concept of stereoselectivity & draw transition structures to rationalise stereochemical outcomes.
B5	Apply knowledge of organic reactions to develop simple synthetic sequences

Attributes:	
C1	Acquire and apply knowledge relating to the principles and practices of organic chemistry
C2	Produce analyses which are grounded in experimental evidence (e.g. spectroscopic data)
C3	Apply existing knowledge and skills to investigate unfamiliar problems.

4) Reading List

Provide an indicative reading list for the module. This should include key texts and/or journals but should not be an exhaustive list of materials.

J Clayden, N Greeves and S Warren, Organic Chemistry, 2nd ed., OUP (2012)

5) Teaching and Learning Profile

Provide details of the method of delivery (lectures, seminars, fieldwork, practical classes, etc.) used to enable the achievement of learning outcomes and an indicative number of hours for each activity to give an overall picture of the workload a student taking the module would be expected to undertake. This information will form the Key Information Set for each undergraduate programme and will be used to populate the KIS widget found on the QMUL programme information pages. More information can be found online about KIS. You may also wish to refer to the QAA guidance on contact hours when completing this section.

Activity Type	KIS Category	Time Spent (in hours)
Lecture	Scheduled	22
Practical Classes and Workshops	Scheduled	8
Guided Independent Study	Independent	120
	Total	150

Specify the total module notional study hours. This should be a total of the hours given for each activity. The notional study hours for each academic credit point is 10. A 15 credit point module therefore represents 150 notional study hours.

Activity Type	Total Time Spent (in hours)	Percentage of Time Spent
Scheduled learning and teaching	30	20
Placement	0	0
Independent Study	120	80
Total	150	100

Use the information provided in the box above to specify the total time spent and the percentage time spent in each category of teaching and learning activity.

6) Assessment Profile

Provide details of the assessment methods used to assess the achievement of learning outcomes.

Description of Assessment	Assessment Type	KIS Category	Duration/Length	Percentage Weighting	Final element of assessment	Qualifying Mark
Coursework	Written Assignment including essay	Coursework		20%	No	
Examination	Written Exam	Written	2 hours	80%	Yes	

Final element of assessment: The assessment that takes place last. There should normally be only one element of assessment marked as final unless two assessment or submission dates occur on the same day.
Qualifying mark: A specified minimum mark that must be obtained in one or more elements of assessment in order to pass a module. This is in addition to, and distinct from, the requirement to achieve a pass in the module mark to pass the module.

Reassessment

Provide details of the reassessment methods used, specifying whether reassessment is either standard reassessment or synoptic reassessment.

○ Standard Reassessment ◉ Synoptic Reassessment

Synoptic reassessment details (if you have indicated synoptic reassessment above, please give details)		
Brief Description of Assessment	Assessment Type	Duration/Length of Examination/ Coursework
Resit Examination	Written Exam	2 hours